



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0603; Directorate Identifier 2013-CE-026-AD]

RIN 2120-AA64

Airworthiness Directives; Meggitt (Troy), Inc. Combustion Heaters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede Airworthiness Directive (AD) 81-09-09, which applies to certain Meggitt (Troy), Inc. (previously known as Stewart Warner South Wind Corporation and as Stewart Warner South Wind Division) Model Series 8240 (Models 8240-A, 8240-C, 8240E, and 8248), 8253 (Models 8253-A, 8253-B, and 8253-C), 8259 (Models 8259-A, 8259-C, 8259-DL, 8259HL2, 8259HR2, 8259JR2, 8259L, and 8259M), and 8472 (Models 8472C and 8472D) combustion heaters. AD 81-09-09 currently requires repetitive inspections of the combustion heater; repetitive general inspections of the combustion heater installation; and, for combustion heaters having 1,000 hours or more time-in-service (TIS), overhaul of the combustion heater. Since we issued AD 81-09-09, there was an airplane accident, and we received reports of the heater malfunction. This proposed AD would retain most actions from AD 81-09-09, add a calendar time to the repetitive inspections, and add more detailed actions for the general inspection. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Meggitt Control Systems, 3 Industrial Drive, Troy, Indiana 47588; telephone: (812) 547-7071; fax: (812) 547-2488; email: infotroy@meggitt.com; Internet: www.stewart-warner.com. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket:

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0603; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Chung-Der Young, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; telephone (847) 294-7309; fax (847) 294-7834 email: chung-der.young@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2014-0603; Directorate Identifier 2013-CE-026-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On April 16, 1981, we issued AD 81-09-09, Amendment 39- 4102 (46 FR 24936, May 4, 1981) (“AD 81-09-09”), for certain Meggitt (Troy), Inc. (previously known as Stewart Warner South Wind Corporation and as Stewart Warner South Wind Division) Model Series 8240 (Models 8240-A, 8240-C, 8240E, and 8248), 8253 (Models 8253-A, 8253-B, and 8253-C), 8259 (Models 8259-A, 8259-C, 8259-DL, 8259HL2, 8259HR2, 8259JR2, 8259L, and 8259M), and 8472 (Models 8472C and 8472D) combustion heaters marked as meeting the standards of FAA TSO-C20. AD 81-09-09 requires repetitive inspection of the combustion heater and inspection of the installation of the combustion

heater. AD 81-09-09 resulted from a hazardous condition caused by deterioration of the combustion heater. We issued AD 81-09-09 to detect and correct a hazardous condition caused by deterioration of the combustion heater, which could lead to ignition of components and result in smoke and fumes in the cabin.

Actions Since AD 81-09-09 Was Issued

Since we issued AD 81-09-09, Amendment 39- 4102 (46 FR 24936, May 4, 1981), we received a report of an airplane accident that resulted in four fatalities and one serious injury. Only the survivor of the accident provided a written statement of the accident. She reported that when the pilot turned on the heater, a “terrible smell” was detected. The pilot told the passengers that the smell was normal for some heaters. When the pilot turned the heater off, dark, black smoke began to enter the airplane, which made it difficult to see. In a flight prior to the accident flight, the heater’s overheat light illuminated when the heater was turned on. The airplane maintenance records indicated a previous problem with the heater.

Regardless of whether the heater played a part in the above-referenced accident, this condition of deteriorated ignition components and smoke and fumes in the cabin could lead to passenger injury on other airplanes incorporating such heaters if not inspected and corrected.

Since the accident, Meggitt, Inc. issued new service information for doing a pressure decay test (PDT). It was also identified that the repetitive inspections for the combustion heater required only time-in-service inspections and did not include a calendar time compliance.

Relevant Service Information

We reviewed:

- Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969;
- South Wind Division Stewart-Warner Corporation Beech Aircraft Corporation Service Manual PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), revised: April 1965;
- South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015, issued: April 1975; and
- Meggitt Inspection Procedure, Pressure Decay Test, Aircraft Heaters, dated May 17, 2014.

The service information describes procedures for inspection of the combustion heater, inspection of the installation of the combustion heater, and the pressure decay test for aircraft heaters.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain certain requirements of AD 81-09-09. This proposed AD would continue requiring the inspection of the combustion heater; however, the repair of the combustion tube would be prohibited. This proposed AD would also require a repetitive combustion heater pressure decay test and a more detailed inspection of the combustion heater and components.

Change to AD 81-09-09

Since AD 81-09-09 was issued, the AD format has been revised, and certain paragraphs have been rearranged. As a result, the corresponding paragraph identifiers have been redesignated in this proposed AD, as listed in the following table:

Revised paragraph identifiers

Requirement in AD 81-09-09	Corresponding requirement in this proposed AD
paragraph (a)	paragraph (g)
paragraph (b)	paragraph (j)

Differences Between this Proposed AD and the Service Information

The proposed AD would prohibit repair of any defective combustion tube while the service information does not specify this.

Costs of Compliance

We estimate that this proposed AD affects 6,000 combustion heaters installed on, but not limited to, Piper Aircraft, Inc. and Cessna Aircraft Company airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Perform pressure decay test	2 work-hours X \$85 per hour = \$170	Not Applicable	\$170	\$1,020,000
Inspection of thermostat switch and upper limit switch	1 work-hour X \$85 per hour = \$85	Not Applicable	\$85	\$510,000
Inspection of solenoid valve and fuel pump	2 work-hours X \$85 per hour = \$170	Not Applicable	\$170	\$1,020,000

We estimate the following costs to do any necessary combustion heater overhaul/disable/related replacement that would be required based on the results of the proposed inspection/test. We have no way of determining the number of aircraft that might need a combustion heater overhaul/disable/related replacement:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Overhaul heater with South Wind parts	8 work-hours X \$85 per hour = \$680	\$4,220	\$4,900
Replace temperature switches	1 work-hour X \$85 per hour = \$85	\$320	\$405
Repair pump	2 work-hours X \$85 per hour = \$170	\$470	\$640
Disable heater	2 work-hours X \$85 per hour = \$170	Not Applicable	\$170
Remove heater	3 work-hours X \$85 per hour = \$255	Not Applicable	\$255

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 81-09-09, Amendment 39- 4102 (46 FR 24936, May 4, 1981), and adding the following new AD:

Meggitt (Troy), Inc.: Docket No. FAA-2014-0603; Directorate Identifier 2013-CE-026-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 81-09-09, Amendment 39- 4102 (46 FR 24936, May 4, 1981).

(c) Applicability

(1) This AD applies to Meggitt (Troy), Inc. (previously known as Stewart Warner South Wind Corporation and as Stewart Warner South Wind Division) Models 8240-A, 8240-C, 8240E, 8248, 8253-A, 8253-B, 8253-C, 8259-A, 8259-C, 8259-DL, 8259HL2, 8259HR2, 8259JR2, 8259L, 8259M, 8472C, and 8472D combustion heaters.

(2) This appliance is installed on, but not limited to, Piper Aircraft, Inc. and Cessna Aircraft Company airplanes.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 2140; Heating System.

(e) Unsafe Condition

This AD was prompted by an airplane accident and reports we received that the combustion heater was malfunctioning. We are issuing this AD to detect and correct a hazardous condition caused by deterioration of the combustion heater, which could lead to ignition of components and result in smoke and fumes in the cabin.

(f) Compliance

Comply with this AD within the compliance times specified in paragraphs (g) through (j) of this AD, including all sub-paragraphs, unless already done. If the hours of combustion heater operation cannot be determined, use 50 percent of the airplane's hours time-in-service (TIS).

(g) Combustion Heater Inspection

Within the next 10 hours TIS or two calendar months after the effective date of this AD, whichever occurs first, and repetitively thereafter at intervals not to exceed 250 hours of combustion heater operation or two years, whichever occurs first, inspect the combustion heater. If any discrepancies are found during the inspection, before further flight, replace any defective combustion tube and correct or replace other defective assemblies as necessary. Follow, as applicable, Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969; South Wind Division Stewart-Warner Corporation Beech Aircraft Corporation Service Manual PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), revised: April 1965; or South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015, issued: April 1975.

Note 1 to paragraph (g) of this AD: The Model 8248 combustion heater is part of the 8240 series of combustion heaters. The Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969, is applicable service information.

(h) Detailed Combustion Heater Inspection Actions

(1) During the inspection required in paragraph (g) of this AD, do the detailed inspection actions listed in paragraphs (h)(1)(i) through (h) (1)(v) of this AD.

(i) Inspect the thermostat switch (external from heater) and upper limit switch (located on the heater). In cold static condition, both switches should be in closed position; in operation (hot) condition, both switches should regulate their sensed temperatures within +/- 10 degrees F.

(ii) Inspect the solenoid valve and fuel pump for fuel leak, corrosion, diaphragm crack, metal shavings, and excess grease.

(iii) With the heater operating, inspect the fuel pump output pressure for proper gauge hook up and pressure range readings.

(iv) Inspect the combustion heater's fuel pump operating pressure to assure it is not affected by other on-board pumps.

(v) Inspect the heater to assure it instantly responds to the on/off switch.

(2) If any discrepancies are found during the inspections required in paragraph (h)(1) of this AD, before further flight, replace any defective combustion tube and correct or replace other defective assemblies, or disable the combustion heater following paragraph (k)(2) of this AD.

(i) Combustion Heater Installation Inspection

Within the next 10 hours TIS or two calendar months after the effective date of this AD, whichever occurs first, and repetitively thereafter at intervals not to exceed 250 hours of combustion heater operation or two years, whichever occurs first, inspect the combustion heater installation following the actions in paragraphs (i)(1) through (i)(4) of this AD. If any discrepancies are found during this inspection, before further flight, do any necessary corrections or replacements.

(1) Inspect ventilating air and combustion air inlets and exhaust outlet correcting any restrictions and ensure attachment security.

(2) Inspect drain line and ensure it is free of obstruction.

(3) Check all fuel lines for security at joints and shrouds, correcting/replacing those showing evidence of looseness or leakage.

(4) Check all electrical wiring for security at attachment points, correcting conditions leading to arcing, chafing or looseness.

(j) Combustion Heater Pressure Decay Test (PDT)

(1) Within the next 10 hours TIS or two calendar months after the effective date of this AD, whichever occurs first, and repetitively thereafter at intervals not to exceed 250 hours of combustion heater operation or two years, whichever occurs first, do the PDT following Meggitt Inspection Procedure, Pressure Decay Test, Aircraft Heaters, dated May 17, 2014.

Note 2 to paragraph (j)(1) of this AD: The Model 8248 combustion heater is part of the 8240 series of combustion heaters. The Meggitt Inspection Procedure, Pressure Decay Test, Aircraft Heaters, dated May 17, 2014, is applicable service information.

(2) If the combustion heater fails the PDT, before further flight, do one of the corrective actions listed in paragraphs (k)(1) through (k)(3) of this AD.

(k) Combustion Heater Overhaul/Disable/Removal

If the combustion heater fails the PDT required in paragraph (j) of this AD, before further flight, do one of the actions in paragraphs (k)(1) through (k)(3), including all subparagraphs of this AD:

(1) Overhaul the heater and all exterior supporting components. No repairs to the combustion tube are allowed. Replace any defective combustion tube with an FAA-approved airworthy combustion tube. Follow, as applicable, Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft

Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969; South Wind Division Stewart-Warner Corporation Beech Aircraft Corporation Service Manual PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), revised: April 1965; or South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015, issued: April 1975.

Note 3 to paragraph (k)(1) of this AD: The Model 8248 combustion heater is part of the 8240 series of combustion heaters. The Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969, is applicable service information.

(2) Disable the heater by the following actions:

- (i) Disconnect and cap the heater fuel supply;
- (ii) Disconnect circuit breakers;
- (iii) Tag the main switch “Heater Inoperable”; and
- (iv) The ventilation blower can stay functional.

(3) Remove the heater by the following actions:

- (i) Disconnect and cap the heater fuel supply;
- (ii) Disconnect/remove circuit breakers;
- (iii) Remove exhaust pipe extension;
- (iv) Cap the exhaust opening;
- (v) Remove the heater; and
- (vi) Do weight and balance for the aircraft.

(l) Credit for Actions Accomplished in Accordance with Previous Service Information

(1) This paragraph provides credit for any inspection required in paragraph (g) of this AD and any overhaul required in paragraph (k)(1) of this AD based on any inspection of this AD if already done before the effective date of this AD following, as applicable, Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969; South Wind Division Stewart-Warner Corporation Beech Aircraft Corporation Service Manual PM-20688, Part No. 404-001039 Heater Assy. (SW 8253-B), revised: April 1965; or South Wind Division Stewart-Warner Corporation Service Manual South Wind Aircraft Heater 8472 Series, Form No. 09-1015, issued: April 1975.

Note 4 to paragraph (l)(1) of this AD: The Model 8248 combustion heater is part of the 8240 series of combustion heaters. The Stewart-Warner South Wind Corporation South Wind Service Manual for Stewart Warner South Wind Aircraft Heaters 8240-A, 8240-C, 8259-A, 8259-C, 8259-DL, 8259-FL1, 8259-GL1, 8259-GL2, Form No. 09-998, revised: December 1969, is applicable service information.

(2) Repair of the combustion tube is prohibited, and this AD does not allow credit for any combustion tube repair.

(m) Special Flight Permit

Special flight permits are permitted in accordance with 14 CFR 39.23 with the following limitation: Use of the heater is not allowed.

(n) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Chicago Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (n)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) AMOCs approved for AD 81-09-09 (46 FR 24936, May 4, 1981) are approved as AMOCs for this AD.

(o) Related Information

(1) For more information about this AD, contact Chung-Der Young, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; telephone (847) 294-7309; fax (847) 294-7834 email: chung-der.young@faa.gov.

(2) For service information identified in this AD, contact Meggitt Control Systems, 3 Industrial Drive, Troy, Indiana 47588; telephone: (812) 547-7071; fax: (812) 547-2488; email: infotroy@meggitt.com; Internet: www.stewart-warner.com. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued in Kansas City, Missouri, on August 13, 2014.

Earl Lawrence,
Manager, Small Airplane Directorate,
Aircraft Certification Service.

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